



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-1312; Project Identifier AD-2022-00551-T]**

**RIN 2120-AA64**

#### **Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777 airplanes. This proposed AD was prompted by reports of cracks found in the station (STA) 2370 pivot bulkhead forward outer chord. Analysis revealed higher bending stresses across the chord than originally assessed. This proposed AD would require repetitive detailed and high frequency eddy current (HFEC) inspections of the STA 2370 pivot bulkhead forward outer chord and longeron fitting for cracking and applicable on-condition actions. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-1312; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website [myboeingfleet.com](https://myboeingfleet.com).

- You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-1312.

**FOR FURTHER INFORMATION CONTACT:** Luis Cortez-Muniz, Aerospace Engineer, Airframe Sections, FAA, Seattle ACO Branch, 2200 South 216th St.,

Des Moines, WA 98198; phone and fax: 206-231-3958; email: luis.a.cortez-muniz@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1312; Project Identifier AD-2022-00551-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

### **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Luis Cortez-Muniz,

Aerospace Engineer, Airframe Sections, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3958; email: luis.a.cortez-muniz@faa.gov. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA received a report indicating that cracks larger than 0.16 inch were found in the STA 2370 pivot bulkhead forward outer chord on airplanes with flight cycles lower than the inspection threshold of 16,000 flight cycles that was specified in certain Boeing service bulletins, which apply to airplanes having line numbers 1 through 244, inclusive. As of February 1, 2020, there were reports of 32 airplanes with crack findings before 16,000 flight cycles, and the lowest finding was at approximately 12,000 flight cycles. Boeing's finite-element model revealed higher bending stresses across the chord than originally assessed. The FAA issued AD 2022-06-07, Amendment 39-21973 (87 FR 24267, April 25, 2022) to address this unsafe condition for airplanes having line numbers 1 through 244, inclusive.

Further, based on those findings, Boeing and the FAA determined that airplanes having line number 245 and subsequent are also subject to such cracking. Boeing subsequently developed new service information to ensure any crack in the STA 2370 pivot bulkhead forward outer chord and longeron fitting for airplanes having line number 245 and on are found and repaired. The FAA is proposing this AD to address cracking in the STA 2370 pivot bulkhead forward outer chord for airplanes having line numbers 245 and subsequent. Such cracking, if not detected and corrected, could result in a severed pivot bulkhead outer chord, loss of horizontal stabilizer control, and loss of controllability of the airplane.

## **FAA's Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

## **Related Service Information under 1 CFR Part 51**

The FAA reviewed Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022. This service information specifies procedures for repetitive detailed and HFEC inspections of the STA 2370 pivot bulkhead forward outer chord and longeron fitting for cracking and applicable on-condition actions. On-condition actions include replacing the pivot bulkhead forward outer chord and splice angle; a detailed inspection of the upper aft longeron extension fittings at STA 2370 to STA 2380 and open hole HFEC inspection of the STA 2370 pivot bulkhead web, aft outer chord, upper and lower outer chord, and skin for any crack; and repair.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the service information already described except for any differences identified as exceptions in the regulatory text of this proposed AD.

## **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 223 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Detailed and HFEC inspections	10 work-hours X \$85 per hour = \$850 per inspection cycle	\$0	\$850 per inspection cycle	\$189,550 per inspection cycle

The FAA estimates the following costs to do any necessary replacements or inspections that would be required based on the results of the proposed inspection. The agency has no way of determining the number of aircraft that might need these replacements or inspections:

### On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replacement	7 work-hours X \$85 per hour = \$595	\$37,720	\$38,315
Detailed and open hole HFEC inspections	5 work-hours X \$85 per hour = \$425	\$0	\$425

The FAA has received no definitive data on which to base the cost estimates for the on-condition repairs specified in this proposed AD.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**The Boeing Company:** Docket No. FAA-2022-1312; Project Identifier

AD-2022-00551-T.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by  
[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL  
REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F airplanes, certificated in any category, as identified in Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022.

**(d) Subject**

Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by reports of cracks found in the station (STA) 2370 pivot bulkhead forward outer chord. Analysis revealed higher bending stresses across the chord than originally assessed. The FAA is issuing this AD to address cracking in the STA 2370 pivot bulkhead forward outer chord. Such cracking, if not detected and corrected, could result in a severed pivot bulkhead outer chord, loss of horizontal stabilizer control, and loss of controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Except as specified by paragraph (h) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022, do all applicable actions identified in, and in accordance with, the



Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022.

Note 1 to paragraph (g): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 777-53A0098, dated April 5, 2022, which is referred to in Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022.

**(h) Exceptions to Service Information Specifications**

(1) Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022, use the phrase “the original issue date of Requirements Bulletin 777-53A0098 RB,” this AD requires using “the effective date of this AD.”

(2) Where Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022, specifies contacting Boeing for repair instructions: This AD requires doing the repair using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(j) Related Information**

For more information about this AD, contact Luis Cortez-Muniz, Aerospace Engineer, Airframe Sections, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3958; email: [luis.a.cortez-muniz@faa.gov](mailto:luis.a.cortez-muniz@faa.gov).

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Requirements Bulletin 777-53A0098 RB, dated April 5, 2022.

(ii) [Reserved]

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; website [myboeingfleet.com](http://myboeingfleet.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on October 21, 2022.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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